

# INTERNATIONAL SEARCH REPORT

PCT/US2005/000932

## A. CLASSIFICATION OF SUBJECT MATTER

F01C9/00 F01B21/00 F02B41/04 F02B47/02 F01L7/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F01C F01B F02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 24 38 410 A1 (EMPRESA DE CONSTRUCTION INDUSTRIAL, HAVANNA) 19 February 1976 (1976-02-19)  page 18, paragraph 4 - page 22, paragraph 2 figures 21-45	1-4, 9-13, 15-26, 28,29
X	US 3 769 788 A (KORPER G,US) 6 November 1973 (1973-11-06) abstract column 9, line 66 - column 10, line 31 column 16, line 41 - column 17, line 24 figures 1,4-7,11  ----- -/--	1-4,34, 35

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

18 May 2005

Date of mailing of the international search report

24-02-2006

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

PCT/US2005/000932

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 595 014 A (HAROLD A. MCMASTER) 27 July 1971 (1971-07-27)	1,4, 9-11, 15-21, 23-29, 34,36
A	abstract column 3, line 1 - line 7 column 5, line 13 - line 48 column 12, line 20 - line 36 column 16, line 49 - column 17, line 6 figures 7,8 -----	3
X	WO 03/074840 A (SHKOLNIK, NIKOLAY) 12 September 2003 (2003-09-12) cited in the application page 16, line 4 - page 17, line 19 page 21, line 7 - page 22, line 21 page 32, line 22 - page 35, line 23 figures 1,3,9,11 -----	1-8, 12-14, 34-36
X	US 6 397 579 B1 (NEGRE GUY) 4 June 2002 (2002-06-04)  column 2, line 32 - line 45 column 4, line 23 - column 5, line 45 figures 5-9 -----	1-4,11, 15,16, 18-23, 34,35
A	US 3 687 117 A (VIKTOR MITRUSHI PANARITI) 29 August 1972 (1972-08-29) column 4, line 30 - line 61 -----	1,12-14

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2005/000932

## Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-29, 34-36

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-29, 34-36

Method of energy conversion with constant volume combustion and corresponding engines.

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2. claims: 30-33

Engine or other structure with a fluidic diode between a housing and a movable member.

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## INTERNATIONAL SEARCH REPORT

PCT/US2005/000932

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2438410	A1	19-02-1976	NONE
US 3769788	A	06-11-1973	NONE
US 3595014	A	27-07-1971	NONE
WO 03074840	A	12-09-2003	AU 2003224628 A1 16-09-2003 CA 2482336 A1 12-09-2003 EP 1485577 A2 15-12-2004 JP 2005519216 T 30-06-2005
US 6397579	B1	04-06-2002	AU 731600 B2 05-04-2001 AU 2642097 A 07-11-1997 BR 9708675 A 04-01-2000 CA 2250998 A1 23-10-1997 CN 1219216 A 09-06-1999 CZ 9803288 A3 17-02-1999 DE 19781700 T0 12-05-1999 ES 2147715 A2 16-09-2000 FR 2748776 A1 21-11-1997 WO 9739232 A1 23-10-1997 GB 2327103 A 13-01-1999 HK 1019780 A1 28-02-2003 JP 2000508403 T 04-07-2000 KR 2000005474 A 25-01-2000 PL 329333 A1 29-03-1999 RO 117471 B1 29-03-2002 RU 2178090 C2 10-01-2002 SE 511407 C2 27-09-1999 SE 9803515 A 15-10-1998
US 3687117	A	29-08-1972	NONE